tant characters, namely, the relative proportions of the dorsal and snout, by their help picking out those specimens which appeared to be males, I actually found 80 to 90 per cent. of the individuals so selected to be males with the Syrskian organ.

I found it impossible to discover distinctive sexual differences of coloration; all the males and females investigated by me were of a white color ventrally, green above, with a metalic luster on the sides.

DESCRIPTION OF A NEW SPAROID FISH (SPARUS BRACHYSOMUS), FROM LOWER CALIFORNIA.

By W. N. LOCKINGTON.

Sparus brachysomus n. sp.

D. $\frac{12}{12}$; A. $\frac{3}{11}$; P. 15; V. $\frac{1}{5}$; C. 3–9–8–3; L. lat. cir. 50.

Body compressed, high; snout and forehead rising in nearly a straight line, at an angle of about fifty degrees with the axis of the body, to the occiput. From this point the dorsal outline arches upwards to the third dorsal spine, then downwards in a continuous arch to the end of the dorsal fin. Abdominal outline much less curved than the dorsal, the anal portion more curved than the anterior portion, lower jaw curved, outline between lower jaw and ventrals nearly straight.

Greatest depth $2\frac{2}{3}$; length of head about $3\frac{1}{11}$; dorsal base about $2\frac{3}{10}$; pectoral about $3\frac{3}{3}$ times in the greatest length; snout (along axis of body) $\frac{5}{7}$; orbit $4\frac{1}{2}$; interocular width $3\frac{3}{4}\frac{3}{6}$ in the length of the head; least depth of caudal peduncle $5\frac{1}{4}$ times in the greatest depth.

Posterior extremity of maxillary falling somewhat short of the anterior margin of the orbit, its upper margin concealed beneath the preorbital throughout; no prominent knob at upper extremity. Lower jaw shorter than the upper.

Nostrils simple; the posterior a large elongated slit close in front of the orbit and on a level with the lower half of the eye; the anterior a small circular foramen situated at a lower level than the posterior and about one-fourth of the diameter of the eye in advance of it.

Interocular space considerably convex transversely, but only slightly so longitudinally.

Posterior margin of preoperculum straight and vertical, lower line convex, the angle of junction strongly rounded. Operculum ending in a flat point; suboperculum membranous at tip.

Numerous conical teeth in front of the jaws, the anterior row considerably larger than those behind. Three rows of molars in the upper jaw, two in the lower. In the specimens examined there are 9 large incisors in the mandible, forming a bold arc, the interior of which contains about five irregular rows of crowded cardiform teeth, reaching back to the anterior small molars. Upper jaw similar, with 7–10 large incisor teeth.

Number of molars in each row of lower jaw variable, but usually 9 on each side, those of the inner row increasing in size to the last, or to the penultimate, which sometimes exceeds the last in size. Teeth of outer row also increasing in size posteriorly, but to a less extent and less regularly, so that the hinder four molars of the inner row are much larger than their neighbors in the outer row. The two inner rows meet at an acute angle, the anterior pair in contact.

Inner row of molars of intermaxillaries consisting of 21 teeth, of which 6–7 form a row on each side, and increase in size to the hindermost or the one in front of it, while the remainder form a curved line of small tubercular teeth of even size along the inner side of the front of the jaw, behind the band of incisors. Outer row of molars 8 in number, similar to those of the lower jaw. Middle row formed of more numerous (about 14) and, on the whole, smaller teeth than either of the outer rows, increasing in size posteriorly, so that, though the anterior five or six are very small, the posterior ones are about equal in size to the smaller teeth of the outer row. The hindmost four or five teeth of the inner row in all cases exceed greatly in size any teeth in the other rows.

Gill-rakers consisting of clusters of pin-like, slender teeth set upon tubercles; those of the last two pairs of branchial arches largest. The principal clusters of teeth are triangular, with several rows of teeth, the largest behind, the other rows diminishing in length and in size of teeth as they succeed each other anteriorly.

Pharyngeal bones, upper and lower, covered with a dense cluster of teeth similar to those in front of the jaws. The inner row of the lower pharyngeals larger than those in front, which are about four in number, and the anterior teeth rather larger than the posterior.

Dorsal commencing immediately over the pectoral base; first spine about one-fourth the length; second spine eleven-twentieths of length of third; fourth broken in specimen examined; fifth slightly shorter; and the remaining spines decreasing regularly to the twelfth, which is less than half as long as the third.

Rays of soft dorsal twice bifurcate.

Second anal spine longer than the third and about twice as long as the first, which is inserted a little behind the pectoral base; rays twice bifurcate.

Caudal deeply and triangulately emarginate on its hinder border, the free portion of the central rays about one-third the length of that of the outer rays. Outer pair of principal rays undivided, most of the others four times bifurcate.

Fifth ray of pectorals longest, fourth but little shorter, lower rays tapering rapidly, producing a rather narrow elongate fin; rays twice bifurcate.

First soft ray of ventrals longest; rays three times bifurcate.

Scales large, broader than long, slightly striated and scalloped on their engaged margin, posterior margin rounded, anterior somewhat angular, the center advancing. Scales of body subequal, operculum and

preoperculum with rather smaller scales, those of interoperculum smaller still. Margins of orbit scaleless, the scales of occiput, which are rather small, advancing to a point very slightly in advance of the anterior orbital margin. Cheeks, jaws, and fins scaleless.

Lateral line approaching gradually nearer to the dorsal outline toward the posterior portion of the body, and running a little above the center of the caudal peduncle; pores simple.

Color, in alcohol, dark brown on snout and cheeks, fading to silvery on sides and rest of body; behind the pectorals there are traces of golden reflections.

On the orbital margin, just above the posterior nostril, there is a tubercular projection of the bone.

Several specimens of this species were sent from Magdalena Bay, Lower California, by Mr. W. J. Fisher. They were unfortunately in rather bad condition, so that the tips of the rays of the soft dorsal and anal are broken off both in the example described and in others which were carbolized and dried.

One of the examples is in the National Museum, Washington, D. C.

This species should probably be placed in the genus *Calamus* Poey, which includes also the *Pagellus calamus* of Cuv. & Val., but as I have not Poey's work at hand I leave it in the Linnæan genus *Sparus*.

Dimensions.

	Inches.
Total length from tip of snout to tip of caudal lobe	14.00
Total length from tip of snout to end of middle caudal rays	12.37
Greatest depth across pectoral base	5.25
Depth of caudal peduncle	1.00
Length of head to tip of opercular spine	3.42
Tip of snout to upper pectoral axil	3.90
Tip of snout to origin of anal	7.70
Tip of snout to origin of dorsal, along dorsal outline	5.55
Tip of snout to anterior axil of ventrals, along abdominal outline	4.35
From orbit to tip of upper jaw, in straight line	2.25
Upper margin of orbit to level of center of interocular space	.37
Longitudinal diameter of eye	.76
Width of interocular space	.92
Length of snout	1.60
Tip of snout to end of maxillary	1.52
Length of pectorals, center ray	3.88
Length of ventrals	2.40
Length of base of dorsal	6.07
Length of base of spinous dorsal	3.88
Length of first spine of dorsal	.53
Length of second spine of dorsal	1.10
Length of third spine of dorsal	2.03
Length of fifth spine of dorsal	1.97
Length of anal base	2.15
Length of first anal spine	.45
Length of second anal spine	.94
Length of third anal spine	.73
Greatest thickness at operculum	1.75
Greatest distance from abdominal outline to lateral line	4.05